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FEED Situation

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Table 1.--Statistical summary of prices, indexes and price ratios, recent years and months

Item	Unit	Season average 1969-70	Season average 1970/71	1971 July	1972 April	1972 May	1972 June	1972 July
FEED GRAIN AND HAY PRICES								
Corn, No. 3 Yellow, Chicago	Dol. per bu.	1.25	1.44	1.49	1.26	1.29	1.27	*1.29
Price received by farmers	do.	1.15	1.33	1.36	1.13	1.15	1.13	1.14
Oats, No. 1 White, Chicago	do.	.624	.729	.712	**	.775	**	**
No. 2 White, Minneapolis	do.	.632	.709	.663	.697	.726	.728	.698
Price received by farmers	do.	.586	.626	.626	.635	.638	.666	.655
Barley, No. 3, Minneapolis	do.	1.08	1.21	1.17	1.16	1.18	1.21	1.17
Price received by farmers	do.	.872	.959	1.07	.990	1.04	1.09	1.04
Grain sorghum, No. 2 Yellow, Kansas City	Dol. per cwt.	2.10	2.42	2.54	2.10	2.09	2.09	2.15
Price received by farmers	do.	1.91	2.05	2.37	1.87	1.88	1.90	1.98
All hay, baled, price received by farmers	Dol. per ton	24.70	26.10	24.10	28.00	31.10	30.90	28.50
Alfalfa hay, baled, price received by farmers	do.	23.90	24.70	24.60	29.20	32.60	32.60	30.50
PROCESSED FEED PRICES, BULK								
Soybean meal, 44% solvent, Decatur	Dol. per ton	78.40	78.50	84.25	94.50	95.30	95.00	101.40
49-50% solvent, Decatur	do.	86.60	84.30	90.00	101.75	103.30	104.90	111.60
Cottonseed meal, 41% expeller, Memphis	do.	72.50	73.40	74.60	73.60	72.25	70.30	81.40
Linseed meal, 34% solvent, Minneapolis	do.	67.90	62.60	64.50	73.25	74.50	75.00	80.50
Peanut meal, 50%, S.E. mills	do.	80.40	77.70	75.75	**	96.00	97.50	102.00
Tankage digester, 60%, Chicago	do.	109.50	99.60	97.20	120.00	120.00	120.60	124.25
Meat meal, 50%, Chicago	do.	107.00	95.60	92.20	122.50	116.00	118.10	122.80
Fish meal, 65%, Imported, East Coast	do.	191.70	173.20	152.75	171.50	181.80	180.00	182.25
Gluten feed, 21%, Chicago	do.	47.80	49.50	45.00	48.75	46.40	43.50	45.10
Brewers' dried grains, 24%, Milwaukee	do.	48.90	51.50	45.50	51.25	51.70	49.40	46.00
Distillers' dried grains, 28%, Cincinnati	do.	57.90	64.40	64.00	60.10	62.25	64.25	64.00
Wheat bran, Minneapolis	do.	41.80	43.80	37.60	40.50	36.40	36.40	36.75
Buffalo	do.	44.50	50.00	40.50	50.90	45.50	42.00	47.50
Wheat middlings, Minneapolis	do.	42.30	43.90	38.25	40.00	35.90	36.40	37.50
Buffalo	do.	48.30	51.60	44.40	51.00	45.80	44.00	48.75
Hominy feed, Chicago	do.	43.20	45.70	45.50	41.25	34.30	33.75	37.50
Molasses blackstrap, New York	do.	27.40	27.67	29.10	29.10	29.10	29.10	29.20
Beet pulp (molasses), Los Angeles	do.	50.40	54.90	55.40	55.60	56.20	58.60	58.60
Alfalfa meal, 17%, dehydrated, Kansas City	do.	45.30	48.10	45.75	49.40	49.70	45.80	47.10
Tallow, inedible prime, Chicago	Cents per lb.	7.5	7.6	7.2	6.5	6.5	6.4	6.6
Urea, 42%, N., Ft. Worth (bagged)	Dol. per ton	71.00	70.00	**	69.50	69.50	67.00	67.00
PRICES PAID BY FARMERS								
Soybean meal, 44%	Dol. per cwt.	5.52	5.69	5.76	6.14	6.27	6.32	6.53
Cottonseed meal, 41%	do.	5.26	5.54	5.54	5.65	5.69	5.71	5.74
Wheat bran	do.	3.64	4.01	4.02	4.02	4.01	3.96	3.94
Wheat middlings	do.	3.72	4.09	4.08	4.05	4.02	3.98	3.96
Broiler grower feed	Dol. per ton	93.00	99.00	99.00	96.00	96.00	96.00	96.00
Laying feed	do.	83.00	88.00	89.00	85.00	85.00	86.00	87.00
Dairy feed, 16%	do.	73.00	79.00	79.00	78.00	78.00	78.00	78.00
Beef cattle feed, 30% and over	Dol. per cwt.	4.80	4.99	5.00	5.04	5.05	5.05	5.07
Hog feed, over 29%	do.	6.65	6.77	6.82	7.18	7.23	7.29	7.43
Alfalfa hay, baled	Dol. per ton	34.10	36.00	36.50	40.70	40.20	39.10	38.00
PRICE INDEXES (1967=100)								
Feed grains, prices received by farmers	Pct.	97	110	113	97	98	98	99
Eleven high-protein feeds, at principal markets		105	105	109	120	122	122	130
Five oilseed meals	do.	103	103	109	120	122	122	130
Tankage, meat meal, and fish meal	do.	128	116	111	129	130	132	139
Gluten feed, brewers' dried grains and distillers' dried grains	do.	103	107	101	105	106	104	106
Feed, prices paid by farmers	do.	100	107	108	105	105	105	106
LIVESTOCK AND POULTRY/FEED PRICE RATIOS 1/	Average (July)							
Hog-corn, Omaha 2/	1967-71=18.1	20.2	12.7	13.9	18.2	19.7	21.5	22.8
Hog-corn, U.S.	1967-71=18.4	20.8	12.8	14.0	19.9	21.7	22.5	24.1
Beef steer-corn, Omaha 3/	1967-71=23.1	23.6	22.2	22.6	27.4	27.8	30.5	30.4
Milk-feed, U.S.	1967-71= 1.61	1.76	1.69	1.61	1.74	1.70	1.68	1.71
Egg-feed, U.S.	1967-71= 7.9	9.9	7.4	6.4	6.4	6.4	6.4	7.0
Broiler-feed, U.S.	1967-71= 3.3	3.0	2.8	3.2	2.7	2.8	3.0	3.3
Turkey-feed, U.S.	1967-71= 4.6	5.2	4.5	4.5	4.7	4.5	4.5	4.4

1/ Units of corn or other concentrates ration equal in value to 100 pounds of hog or beef steer, one pound of chicken, milk, or one dozen eggs. 2/ Based on packer and shipper purchases of hogs and No. 2 Yellow corn. 3/ Based on price of beef steers all grades sold out first hands for slaughter, and No, 2 Yellow corn. *No. 2 yellow. **Not reported.

Prices compiled from Chicago Board of Trade, Minneapolis Daily Market Record, Kansas City Grain Market Review, National Provisioner, Feedstuffs, and reports of the Agricultural Marketing Service.

THE FEED SITUATION

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Approved by
The Outlook and Situation Board
August 23, 1972

The summary and a feed grain supply-use table was released on the above date.

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SUMMARY

The 1972/73 feed grain supply will total 233 million tons on the basis of August indications, a little below last year's big supply. Production, forecast at 183 million tons, is some 23 million below last year's record output. The smaller crop will be harvested from the least acreage of this century as farmers participated heavily in the voluntary set-aside under the 1972 Feed Grain Program.

Domestic consumption of feed grains in 1972/73 probably will make a further modest gain after the sizable increase occurring this season. Prospects for 1-2% more grain consuming animal units and continued favorable livestock-feed price ratios will likely maintain heavy feeding rates per animal unit.

The 1972/73 feed grain export picture looks bright. Boosted by substantial sales to the USSR, U.S. feed grain exports in 1972/73 will probably exceed the estimated 26 million tons for 1971/72, a volume that is second largest of record.

With expanding use in 1972/73, a sizable reduction in the carryover is likely. For the season now ending, the carryover is estimated at 50 million tons, 17 million more than last year.

Farm prices at harvesttime will be stronger than the low levels in 1971. For example, corn prices this November will be higher than last year's low 97 cents a bushel, perhaps a few cents above the $1.05 loan rate. However, as the year progresses, prices may rise less than seasonally because of moderating effects of relatively large stocks under loan and owned by CCC.

This year's corn crop, forecast at 4.9 billion bushels on August 1, plus an estimated carryover of more than a billion bushels this October 1, gives a 1972/73 supply of 6.1 billion bushels, a little below last year. Production at this level would be short of projected requirements, resulting in a sizable dip in the carryout at the close of 1972/73. Domestic use probably will make a modest gain from this season's 4.3 billion bushels. Exports could be considerably larger than the 750 million estimated for this year.

Sorghum production, forecast at 803 million bushels, would be 10% below last year's record crop. Adding an estimated 160-million-bushel carryover this October 1, however, gives a supply only slightly below the 986 million bushels in 1971/72. With more cattle on feed and prospects for less wheat feeding, livestock producers

in 1972/73 probably will feed at least as much sorghum as in the current season. Sorghum feeding in 1971/72 is heavy, totaling an estimated 707 million bushels.

Prospective oat supplies, at 1.3 billion bushels, are 7% below 1971/72; at nearly 600 million bushels, barley supplies are down 6%. Disappearance of these grains in 1972/73 may not match levels of a year earlier.

Supplies of high-protein feeds in 1972/73 may be stymied again by the continued tight supply of soybeans. Thus, protein feeding in 1972/73 may make only a modest gain from the 20 million tons estimated this year. Record-high prices are indicative of the tight protein feed situation.

The 1972/73 hay supply, estimated at 154 million tons, is about the same as last year. But the supply per roughage consuming animal unit will drop slightly because of a prospective 2½% increase in animal numbers. Farm prices of 1971-crop hay, at $28 per ton, averaged 18% above a year earlier. Smaller production in most regions and strong demand probably will continue to strengthen prices in 1972/73.

FEED GRAINS (Total)

Ample Supply In Prospect

The 1972/73 feed grain supply will total 233 million tons based on August indications, a little below last year's huge supply. The 1972 crop, forecast at 183 million tons, would be 23 million less than last year's bumper output. But the carryover into 1972/73 probably will total around 50 million tons, or some 17 million more than last year's low level. This year's smaller crop is the result of large participation in the feed grain program, which was designed to reduce acreage and bring production back in line with needs. As a result, farmers only planted 115.3 million acres to feed grains, 13.1 million fewer than last year and 0.5 million less than the previous low in 1969.

Heavy Usage To Continue

In April we indicated that feed grain producers could look forward to a good season in 1972/73 if they did not exceed their March 1 planned acreage. Three recent developments enhance that outlook:

1. Farmers seeded 3 million acres less than they intended on March 1; half of the drop was in corn.
2. Current high livestock prices point to continued strong feed demand.
3. U.S. grain export prospects are considerably improved with substantial grain sales to the Soviet Union.

Thus, feed grain requirments likely will continue high in 1972/73. Domestic consumption should make at least a modest gain over the sizable 6% increase occurring in the current season. Continued favorable livestock-feed price ratios in 1972/73 will mean another season of heavy feeding rates of grain concentrates.

Exports of feed grains in 1971/72 will total around 26 million tons or a fourth above 1970/71 when supplies were tight and prices high. Exports in 1972/73 probably will make a considerable gain from the 1971/72 levels. Ample feed grain supplies at competitive prices plus continuation of strong world demand for feed, particularly in the USSR, are important factors behind the favorable prospects for U.S. feed grain exports.

Upcoming disappearance, therefore, probably will exceed 1972 production, and lower the carryover into 1973/74 by perhaps a fifth.

CORN

Still Plenty Of Corn

The corn supply (production plus carryover stocks) for 1972/73 will total 6.1 billion bushels, based on August 1 prospects, slightly below 1971/72. This year's crop, forecast at 4.9 billion bushels, would be down around 600 million from 1971, but second largest of record. August 1 prospects also indicated a yield of 86.6 bushels per acre, virtually the same as last year's 86.8 bushels. The 1972 crop also appears to be fairly well distributed. Yield prospects were down about 3-5 bushels in North Atlantic and the East North Central Regions, but up 1-5 bushels in the South Atlantic and West North Central Regions. Prospective yields in the South Central States are virtually unchanged from 1971.

Corn production was out of balance with disappearance during 1970 and 1971. The situation in 1970 was characterized by a short crop and high prices, and in 1971 by overproduction and low prices. However, production in 1970 and 1971 averaged 4.8 billion bushels annually, near the 1953-69 trend line of 4,750 million for those 2 years. Production at the indicated level in August would be about on trend of 4.9 billion bushels.

Demand Prospects Strong

With prospects for continued heavy domestic and export requirements in 1972/73, a corn crop of 4.9 billion bushels falls short of projected needs. Thus, the carryover on October 1, 1973 would drop somewhat below the 1.1 billion bushels estimated for this October.

Disappearance of corn in 1972/73 may make at least a modest gain over the 5.1 billion estimated during the current season. Domestic requirements will remain large. Prospects favor a 1-2% increase in grain-consuming animal units and continued favorable livestock-feed price ratios. Relatively high prices of beef cattle, hogs and dairy products will be a stimulus to increased output of these commodities. In addition, consumer demand for meat continues very strong.

Average annual use of corn for 1970/71 and 1971/72 figures out to around 4¾ billion bushels, close to average production for the 2 years. The estimated record of 5.1

Table 2.--Feed Grains: Supplies and utilization, U.S.,
av. 1965-69, ann. 1969-72

Marketing year 1/	Supply				Utilization				
					Domestic use				
	Carry-over	Production	Imports 2/	Total	Feed 3/	Food industry and seed	Total domestic	Exports 2/	Total use
	Million bushels								
	CORN								
Av. 1965-69	1,017	4,387	1	5,405	3,450	377	3,827	591	4,418
1969	1,113	4,583	1	5,697	3,692	394	4,086	612	4,698
1970	999	4,099	4	5,102	3,526	396	3,922	517	4,439
1971 4/	663	5,540	1	6,204	3,902	402	4,304	750	5,054
1972 4/	1,150	4,948	1	6,099					
	GRAIN SORGHUM								
Av. 1965-69	356	726	---	1,082	596	12	608	182	790
1969	288	747	---	1,035	654	9	663	126	789
1970	246	696	---	942	697	10	707	144	851
1971 4/	91	895	---	986	707	9	716	110	826
1972 4/	160	803	---	963					
	OATS								
Av. 1965-69	302	881	3	1,186	722	103	825	16	841
1969	375	950	2	1,327	725	107	832	5	837
1970	490	909	2	1,401	768	103	871	18	889
1971 4/	512	876	4	1,392	717	102	819	24	843
1972 4/	549	737	2	1,288					
	BARLEY								
Av. 1965-69	133	401	9	543	216	130	346	37	383
1969	199	424	13	636	241	141	382	17	399
1970	237	410	9	656	283	139	422	78	500
1971 4/	156	462	15	633	268	140	408	51	459
1972 4/	174	409	10	593					
	TOTAL FEED GRAINS								
	Million Tons								
Av. 1965-69	46.5	166.9	.2	213.6	129.9	15.7	145.6	22.8	168.4
1969	50.0	174.6	.4	225.0	139.0	16.4	155.4	21.2	176.6
1970	48.4	158.6	.4	207.4	137.3	16.4	153.7	20.7	174.4
1971 4/	33.0	205.3	.5	238.8	146.6	16.5	163.1	25.7	188.8
1972 4/	50.0	182.6	.3	232.9					

1/ October-September for corn and grain sorghum; July-June for oats and barley. 2/ Includes grain equivalent of products. 3/ Residual; includes small quantities for other uses and waste. 4/ Preliminary; based on August 1 indications.

billion bushels to be used in 1971/72 contrasts with the 4.4 billion used in the previous year. Disappearance in 1970/71 was some 400 million bushels under the 1953-69 trend line while 1971/72 use will be slightly above the line.

U.S. corn exports in the current season will total about 750 million bushels, up substantially from the 517 million of 1970/71. Exports from October through August 18 totaled approximately 639 million bushels compared with 429 million a year earlier. Much of the increase is attributable to the sales to the USSR last fall and this summer. Through July, the Soviets took some 80 million bushels of U.S. corn. Exports to Western Europe also are holding up quite well this year. Shipments to West Germany, the Netherlands, Italy, and Spain were well above those in 1970/71. But exports to Japan, our largest feed grain market, fell from 95 million bushels to 86 million. Japan is continuing to feed surplus rice, but even then their feed grain imports of 8 million tons during October-June from all sources were about level with 1970/71. Thus, the drop in imports from the United States were offset by increased imports from other countries.

Boosted by sales to the Soviet Union, U.S. corn exports in 1972/73 may make another sizable gain. However, the size of the European grain crop always has a bearing on the Continent's feed import demand. Grain production prospects in Europe have been generally favorable this summer.

Other factors that will influence U.S. corn exports in 1972/73 are:

1. The size of feed grain crops to be harvested next spring in Argentina and South Africa. Argentina harvested a short corn crop of 228 million bushels last spring, while South Africa's crop was a record 404 million.
2. Whether Japan becomes more active in the U.S. feed grain market. For fiscal 1972, Japan's total trade surplus with the United States was $3.8 billion compared with $1.6 billion for fiscal 1971.

April-June Disappearance Most Ever

April-June disappearance of corn totaled almost 1.2 billion bushels, a fifth more than the relatively low level of a year ago. This compares with increases of 7% in January-March and 15% in October-December. Much of the increase during April-June was due to the 192-million-bushel export movement which more than doubled that of a year earlier. After showing only a modest gain in January-March, domestic consumption in April-June made a sizable 12% jump to a record 976 million bushels. Strong domestic and export demand probably will continue in July-September.

Carryover of 1.1 Billion Bushels

The corn carryover this October 1 is forecast at around 1.1 billion bushels, up from 663 million a year earlier. Stocks on July 1 totaled 2.2 billion bushels, around 600 million more than a year ago. Assuming that "free" carryover on October 1 will be in the area of 300 million bushels, and July-September requirements are around 1,025 million bushels, some 160 million will come from the government positions. Most of the volume probably will come from 1971-crop loan corn of which there was nearly 700 million bushels outstanding on July 1. July loan redemptions of 1971-crop corn totaled 69 million bushels leaving 622 million under loan on August 1.

Corn: July 1 "free" stocks and July-September use

Item	1970	1971	1972
	Mil. bu.	*Mil. bu.*	*Mil. bu.*
July 1 "free" stocks	1,012	1,016	1,163
July-Sept.:			
Domestic use	771	751	800
Exports	154	147	225
Total	925	898	[1] 1,025
From Gov't stocks[2]	370	215	[1] 162
"Free" carryover	457	333	[1] 300

[1] Forecast August 1972. [2] Net withdrawal from CCC stocks and from the loan program.

Corn under reseal August 1, 1972

Crop	Volume	Loan rate	Approx. redem. costs
	Mil. bu.	*Dol. per bu.*	*Dol. per bu.*
1969	64	1.05	1.14
1970	101	1.05	1.11
1971	[1] 622	1.05	1.07

[1] Loans outstanding.

Corn loan activity

Activity	Crop		
	1969	1970	1971[1]
	Mil. bu.	*Mil. bu.*	*Mil. bu.*
Placed under loan[2]	398	324	950
Repaid by farmers	290	206	322
Delivered to CCC[3]	2	6	6
Resealed	106	112	[4] 622

[1] Preliminary. [2] Includes any deliveries to CCC under the purchase program. [4] Outstanding.

A large portion of the loan redemption likely will come from the West North Central States where 501 million bushels of 1971-crop loans are held. In that region the mid-July farm price averaged about 6 cents over the approximate loan redemption cost (table 4).

Table 3.--Feed grain stocks: Government and "free", July 1, 1971 and 1972

Item	Corn		Grain sorghum		Oats		Barley		Total 4 feed grains	
	1971	1972	1971	1972	1971	1972	1971	1972	1971	1972
	Million bushels								Million tons	
Under loan										
Old grain resealed	235	169	11	4	119	143	51	39	10.0	8.1
Under price support from preceding crop 1/	219	691	9	95	71	51	10	39	7.8	23.8
CCC-uncommitted balance	90	154	78	46	169	178	29	1	8.1	8.5
Total Government	544	1,014	98	145	359	372	90	79	25.9	40.4
"Free" 2/	1,016	1,162	80	132	153	177	66	95	34.7	41.3
Total all positions	1,560	2,176	178	277	512	549	156	174	60.6	81.7

1/ Total quantity placed under loan less repayments and deliveries to CCC through June 30. 2/ Residual; privately held stocks.

Government stocks from operating reports of Agricultural Stabilization and Conservation Service.

Table 4.--Corn: Loans outstanding, cost of redemption and prices in North Central Region

Crop of	East North Central States 1/				West North Central States 2/			
	Net under loan July 1	Loan rate 3/	Approximate redemption cost July 1, 1972	Difference July farm price of $1.15 and loan 4/	Net under loan July 1	Loan rate 3/	Approximate redemption cost July 1, 1972	Difference July farm price of $1.12 and loan 4/
	Mil. bu.	Dol. per bu.			Mil. bu.	Dol. per bu.		
1969	3	1.09	1.20	-.05	62	1.03	1.14	-.02
1970	8	1.09	1.16	-.01	95	1.03	1.10	+.02
1971	173	1.09	1.12	+.03	501	1.03	1.06	+.06
Total	184				658			

	Received by farmers mid-July	No. 2 Yellow mid-August 5/		Received by farmers mid-July	No. 2 Yellow mid-August 5/	
		Chicago	Toledo		Omaha	Minneapolis
	Dol. per bu.			Dol. per bu.		
1971	1.41	1.32	1.26	1.31	1.24	1.22
1972	1.15	1.29	1.23	1.12	1.20	1.20

1/ Ohio, Indiana, Illinois, Michigan and Wisconsin.
2/ Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas.
3/ Weighted by State's corn production, No. 2 grade.
4/ Farm price above (+) or below (-) cost of redeeming loan.
5/ Closing cash quotations about the middle of the month.

In the East North Central States, with almost 175 million bushels of 1971 corn under loan on July 1, there is less incentive for farmers to repay their loans since the price is only about 3 cents above the loan redemption cost.

This situation should help prevent any unusual sag in prices from summer to harvesttime. Thus, market prices should remain fairly firm relative to loan redemption costs until new crop supplies start reaching the market in volume.

Prices Higher At Harvest, More Stable Afterward

The following factors make the 1972/73 price outlook for corn more optimistic than last year:

1. A smaller crop.
2. More livestock.
3. Favorable livestock prices and feed-price ratios.
4. Continued strong export demand.
5. Supply and projected needs in reasonably good balance, with some drop in carryover at the end of the 1972/73 season.
6. Continued heavy loan activity by producers.

As last year's huge crop became imminent, farm prices fell more than the seasonal norm, dropping from $1.43 in June to a low of 97 cents in mid-November. But by mid-December, they rose to $1.08. During January-July 1972 they stayed between $1.09 and $1.15.

Paralleling the farm price, Chicago corn fell sharply last summer, dropping to $1.01 a bushel by November 17. By mid-December, prices reached $1.26 and then ranged between $1.19 and $1.30 during January-July. Prices at Chicago in mid-August at around $1.29 a bushel, were still near July peak levels. The seasonal price decline from the mid-August level likely will be less than normal.

Corn prices

Month	Farm mid-month 1971/72	Chicago No. 2 Yellow daily cash 1970/71		1971/72	
	Dollars per bushel				
		Low	High	Low	High
Oct.	1.00	1.38	1.46	1.04	1.13
Nov. . . .	.97	1.37	1.49	**1.01**	1.14
Dec. . . .	1.08	1.50	1.57	1.15	1.26
Jan.	1.09	1.56	1.60	1.19	1.23
Feb. . . .	1.09	1.56	1.60	1.19	1.23
Mar. . . .	1.10	1.53	1.58	1.20	1.24
Apr. . . .	1.13	1.46	1.55	1.24	1.30
May	1.15	1.48	1.55	1.25	1.30
June . . .	1.13	1.52	**1.62**	1.19	1.28
July	1.14	1.36	1.56	1.26	1.30
Aug. . . .		1.21	1.33	[1] 1.27	[1] 1.30
Sept. . . .		**1.12**	1.22		

[1] Thru August 23.

Figures in bold type denote annual lows and highs.

Two factors probably will have a stabilizaing effect on prices in 1972/73:

1. The prospective large supply of corn seems ample to meet expanding requirements at a price still attractive to users.
2. A large quantity will be under loan and owned by CCC. The CCC corn inventory of 154 million bushels will have some stabilizing effect on the market.

The real key to the seasonal price pattern during 1972/73 lies in loan activity. Generally, movement of large volumes into loan tends to strengthen prices. On the other hand, it also tends to temper any sharp price rise.

WHITE CORN

Production To Plummet

Acreage planted to white corn in 10 leading white corn producing States is estimated at 450,000 acres, substantially under the 1.1 million planted in 1971 and nearly 200,000 below March 1 intended acreage. This may spell the return to a more normal white corn situation. Seeded acreage in 1971 was unusually large, because of (1) uncertainty about blight, (2) concern over availability of blight-resistant seed and (3) high prices in early 1971. Assuming last year's 10-State yield of 76 bushels per acre will be matched, and 94% of the acreage planted will be harvested for grain, this year's crop computes to roughly 32 million bushels compared with 81 million in 1971.

In 1971/72, much of the white corn had to be sold for feed at discount prices. White corn normally goes into food products, such as cornmeal, hominy grits, and canned hominy where it commands a premium price.

This year's smaller crop will boost white corn prices. Prices at Kansas City in mid-August were quoted at $1.35-$1.39 a bushel, about the same as the falling prices of a year ago. During October-July 1971/72 they averaged $1.23, or 85 cents below the high prices of the previous season.

GRAIN SORGHUM

Smaller Crop, Record Yield

Grain sorghum supplies for 1972/73 are forecast at 963 million bushels, down slightly from a year earlier and 11% below the 1965-69 average. This year's crop, estimated at 803 million bushels in August, is 10% under 1971 production but the second largest on record. The carryover this October 1,, forecast at 160 million bushels, greatly exceeds the small volume in 1971 and partially offsets the smaller crop.

This year's smaller production is due to a fifth less acreage as sorghum growers have participated heavily in the feed grain program. The yield, forecast at 57½ bushels per acre in August, is 3½ bushels more than a year ago and around 1½ bushels more than the record in 1966.

Domestic Use and Exports Lag

Domestic consumption of grain sorghum in the first 9 months of 1971/72 totaled 637 million bushels, slightly less than in that period of a year ago. Reduced use during the past couple years has interrupted the fairly consistent uptrend in sorghum feeding of the 1960's even though cattle feeding in the 8 Western States (that account for most of sorghum's production and consumption) continued to rise. Although sorghum prices in 1971/72 have averaged well below those of the year before, they were still high in relation to corn and other grain concentrates. Thus, apparently more than the usual volume of other grains, particularly wheat, have been going into feed rations in those States.

Sorghum's domestic consumption for the remainder of 1971/72 hinges considerably on its price relationship (and availability) with other grains in the 8 Western States. With a sizable increase in exports of hard red winter (HRW) wheat (the class competing with sorghum) wheat feeding may dip substantially from the 164 million bushels fed during July-September 1971. Consequently, sorghum feeding this July-September may exceed the 57 million bushels of a year ago.

Cattle on feed in selected Western States

State	July 1, 1972	Change from—	
		July 1, 1971	April 1, 1972
	1,000 head	*Percent*	*Percent*
California	1,165	+16	+15
Arizona	542	+10	-1
New Mexico	212	+24	+8
Texas	2,119	+25	+14
Oklahoma	298	+18	+15
Kansas	1,130	+32	+8
Nebraska	1,442	+20	-1
Colorado	1,020	+16	+8
Total or average	7,928	+21	+8

Sorghum's domestic consumption in 1972/73 may at least equal the 706 million bushels estimated for the current season. With cattle numbers increasing in the Western States, feed demand for sorghum will continue strong. Also, wheat feeding in October-September 1972/73 may dip below the 7 million tons estimated for the current feeding season.

Sorghum exports this season will amount to around 110 million bushels, down from the 144 million shipped overseas in 1970/71. Japan continues to be the leading buyer of U.S. sorghums. But U.S. exports to Japan during October-July waned to 49 million bushels, compared with 71 million a year earlier. Japan has been feeding more of its surplus rice but also importing more grain from other countries.

Grain sorghum and corn prices at Gulf ports[1]

Year beginning October	Grain sorghum	Corn	% of corn
	Dol. per cwt.	*Dol. per cwt.*	*Pct.*
Average 1961-70	2.23	2.46	91
1971			
July	2.61	2.98	88
July-Sept.	2.39	2.56	93
Oct.-Dec.	2.30	2.22	104
1972			
Jan.-Mar.	2.42	2.35	103
Apr.-June	2.35	2.43	97
July	2.36	2.38	99

[1] No. 2 yellow spot basis, f.o.b. vessel, for prompt or 30-day shipment.

The sorghum export picture for 1972/73 is uncertain. Argentina's exportable sorghum supplies for October-February 1972/73 will be well below a year earlier, but a good harvest in March-April 1973 would bring increased competition for the U.S. in the second half of the season. Because Japan has been the primary taker of U.S. sorghums, exports in 1972/73 will also depend on the extent of Japanese usage of sorghum.

Price Outlook

With prospects for a smaller crop, and continued strong feed demand, plus the 6 cent increase in the loan rate (to $1.79 per cwt.), sorghum prices in 1972/73 probably will average somewhat higher than the estimated $1.86 per cwt. received by farmers for their 1971 crop. Sorghum prices have declined seasonally from their peak in July. No. 2 milo at Kansas City was quoted at $2.07 per cwt. in mid-August, 12 cents below the high in late July and 19 cents under a year earlier.

Milo prices

Month	Farm, mid-month 1971/72	Kansas City, No. 2 Yellow, daily cash			
		1970/71		1971/72	
	Dollars per cwt.				
		Low	High	Low	High
Oct.	1.76	2.16	2.25	**1.74**	1.88
Nov.	1.78	2.18	2.22	1.82	1.94
Dec.	1.86	2.21	2.31	1.94	2.11
Jan.	1.89	2.31	2.40	2.03	2.09
Feb.	1.86	2.32	2.38	2.05	2.10
Mar.	1.87	2.28	2.36	2.04	2.10
Apr.	1.87	2.34	2.48	2.08	2.11
May	1.88	2.40	2.50	2.06	2.10
June	1.90	2.46	**2.66**	2.06	2.11
July	1.98	2.50	2.56	2.05	2.19
Aug.		2.01	2.49	[1] 2.04	[1] 2.12
Sept.		**1.80**	2.06		

[1] Through August 23.

Figures in bold type denote annual lows and highs.

Grain sorghum loan activity

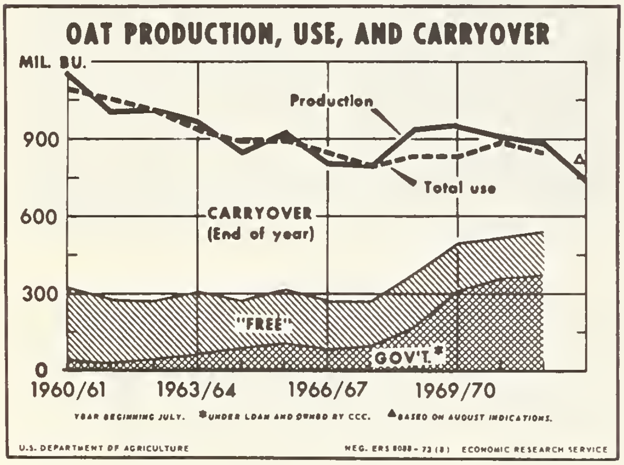
Activity	Crop		
	1969	1970	1971[1]
	Mil. bu.	*Mil. bu.*	*Mil. bu.*
Placed under loan[2]	42	31	154
Repaid by farmers	19	25	70
Delivered to CCC[3]	1	([4])	1
Resealed	22	6	[5]83

[1] Preliminary. [2] Includes any deliveries to CCC under purchase program. [3] Excludes deliveries from the reseal program. [4] Less than 500,000 bu. [5] Loans outstanding.

OATS

Smallest Crop Since 1934

The 1972/73 oat supply is placed at 1.3 billion bushels on the basis of August indications. This would be down 7% from 1971/72, but 9% above the 1965-69 average. The July 1 carryover totaled a record 549 million bushels. Prospective production, however, is about 15% less than last year and the smallest since 1934. Producers reduced acreage 7% to the lowest level of this century. Yield prospects also are off about 3½ bushels per acre from last year's record high of 55.7 bushels.



Despite large supplies of oats and other grains in 1971/72 and the reduced 1971 loan rate, the oat market remained fairly strong most of the year. Cash prices of No. 2 white oats at Minneapolis rose from an average of 61 cents a bushel in August 1971 to 70 cents in June 1972. Prices for the entire year averaged 66 cents or 3 cents below the year before. Although the "free " carryover in July was up 15% "free" supplies during most of 1971/72 were fairly well in line with usage. Market prices in mid-August were quoted at 70 cents a bushel, 11 cents above a year ago and 103% of No. 2 yellow corn at Minneapolis on a pound-per-pound basis. The smaller supplies plus continuation of reasonably strong demand probably will maintain fairly strong oat prices in 1972/73. However, a factor limiting any unusual seasonal rise is the large volume (372 million bushels) of oats under loan and owned by CCC (table 3).

Oat prices

Month	Farm mid-month		Minneapolis No. 2 White extra heavy daily cash			
	1971/72	1972/73	1971/72		1972/73	
	Cents per bushel					
			Low	High	Low	High
July	63	66	60	66	68	70
Aug.	56		**59**	64	[1]68	[1]71
Sept.	57		63	66		
Oct.	58		63	65		
Nov.	60		65	68		
Dec.	62		66	69		
Jan.	64		68	69		
Feb.	64		68	69		
Mar.	64		65	67		
Apr.	64		66	69		
May	64		68	**71**		
June	67		69	**71**		

[1] Through August 23.

Figures in bold type denote annual lows and highs.

Oat loan activity

Activity	Crop		
	1969	1970	1971[1]
	Mil. bu.	*Mil. bu.*	*Mil. bu.*
Placed under loan[2]	163	114	82
Repaid by farmers	19	29	34
Delivered to CCC[3]	58	23	*
Resealed	86	62	[4]48

[1] Preliminary. [2] Includes any deliveries to CCC under purchase program. [3] Excludes deliveries from the reseal program. [4] Loans outstanding. *Less than 500,000.

Oats under reseal
(August 1, 1972)

Crop	Volume	Loan rate	Approx. redem. costs
	Mil. bu.	*Ct. per bu.*	*Ct. per bu.*
1968	29	63	72
1969	59	63	70
1970	49	63	67
1971[1]	[1]48	54	56

[1] Net under loan including that in process of being resealed or redeemed.

Less Domestic Use Probable

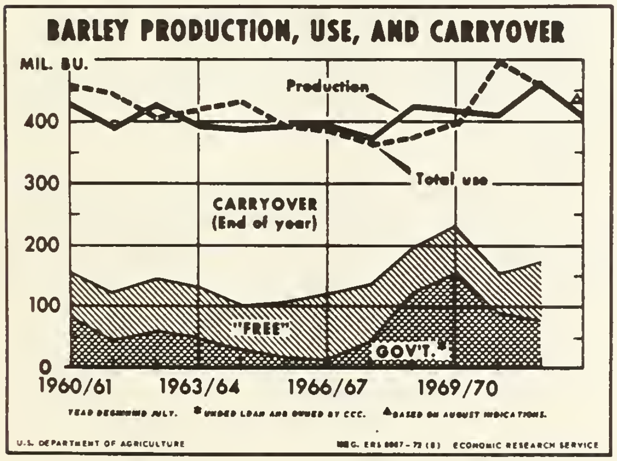
Domestic feeding of oats in 1972/73 probably will slip a bit from the 717 million bushels fed in 1971/72. Supplies are down but prices should remain fairly competitive with other grains. In view of the long-term decline in supplies and use of oats, the demand for oats in recent years probably has been largely supported by increasing horse numbers.

In an unofficial USDA tally from estimates gathered by the Extension Service U.S. horse numbers on and off farms in 1971 were put at 5.9 million head. The last official count by USDA in 1960 placed horses and mules on farms at around 3 million head. The horse industry consensus is that horse numbers may be as high as 7 to 9 million. In 1970 (last year reported) the USDA indicated that oats made up about 11% of the dairy concentrate ration; two decades earlier, they made up nearly a fourth of the ration. With oat usage slipping in the dairy sector, some of the demand slack is being made up in other livestock sectors since oats continue to be priced competitively with other grains on a pound-per-pound basis.

BARLEY

Supply Down, Use Slumps

The 1972/73 barley supply, estimated at nearly 600 million bushels on the basis of August indications, would be down 6% from a year earlier. The July 1 carryover of 174 million bushels was up 18 million bushels from 1971, but production is forecast at 409 million, down 53 million.



Total barley use in 1971/72 slumped 8% due to both lower domestic feeding and exports. Domestic feeding dropped 5% while exports fell 35%. However, feeding and exports each still were above the 1965-69 average. In view of the smaller supply domestic use in 1972/73 may only about equal last year's level of 408 million bushels.

There is uncertainty in the export outlook. The 1971/72 export situation was dominated by the sale of some 39 million bushels to the Soviet Union. This sale was handled out of CCC stocks. Current CCC owned stocks are negligible and the Soviets could meet any of their additional barley needs by purchasing European and Canadian barley. They have recently purchased 23 million bushels from France and 9 million from Canada.

Barley prices

Month	Farm, mid-month		Minneapolis, No. 3 or better daily cash			
	1971/72	1972/73	1971/72		1972/73	
	Dollars per bushel					
			Low	High	Low	High
July . . .	1.07	1.04	.95	1.03	.92	.99
Aug. . . .	.87		**.87**	.99	[1]92	[1]1.00
Sept. . . .	.90		.95	1.01		
Oct. . . .	.94		1.01	1.05		
Nov. . . .	.98		.99	1.05		
Dec. . . .	1.00		1.01	1.07		
Jan. . . .	1.02		1.07	1.08		
Feb. . . .	1.01		1.06	1.08		
Mar. . . .	.98		1.04	1.06		
Apr. . . .	.99		1.04	1.08		
May . . .	1.04		1.08	1.09		
June . . .	1.09		.97	**1.13**		

[1] Through August 23.

Figures in bold type denote annual lows and highs.

With prospective smaller supplies, barley prices in 1972/73 may average a few cents above those of last year. Cash prices of No. 3 or better at Minneapolis in 1971/72 averaged $1.04 a bushel, 7 cents below 1970/71. Prices in mid-August were quoted at 99 cents a bushel, around a dime above a year ago. Barley placed under loan from the 1971 crop totaled 89 million bushels (fourth highest), keeping the barley situation fairly tight during much of the year. Loan activity in 1972/73 likely will be down somewhat. Nevertheless, the 1972/73 supply and demand seem to be in fairly close balance.

Barley loan activity

Activity	Crop		
	1969	1970	1971[1]
	Mil. bu.	*Mil. bu.*	*Mil. bu.*
Placed under loan[2]	53	28	89
Repaid by farmers	22	19	55
Delivered to CCC[3]	4	1	1
Resealed	27	8	[4]33

[1] Preliminary. [2] Includes any deliveries to CCC under purchase program. [3] Excludes deliveries from the reseal program. [4] Outstanding.

Barley under reseal
(August 1, 1972)

Crop	Volume	Loan rate	Approx. redem. costs
	Mil. bu.	*Dol. per bu.*	*Dol. per bu.*
1968	20	.90	1.02
1969	11	.83	.92
1970	5	.83	.89
1971	[1] 33	.81	.84

[1] Net under loan including that in process of being resealed or redeemed.

Barley In 1973 Program

Barley will be included in the 1973 feed grain program as it is in 1972. The minimum set-aside is scheduled to be not less than 25% of the farm's barley base. The exact set-aside percentage will be given when provisions of the 1973 feed grain program are announced.

FEED CONCENTRATES

Another Large Feed Bag

The smaller but second largest feed grain crop ever indicated on August 1 and the much larger carryover point to another big supply of feed concentrates for 1972/73. Estimated carryover is 17 million tons, or around 50% larger than the very low level of 33 million at the start of this marketing year. This increase will not quite offset the 23-million-ton reduction indicated for the 1972 feed grain harvest. Thus, the concentrate supply is likely to be only modestly or 2% lower than this season's 281 million tons.

Grain-consuming animal units during 1972/73 probably will rise 1-2% as a result of expanded cattle feeding. And price ratios should continue very favorable for feeding—especially for cattle, hogs and dairy products. Although prospective 1972/73 supplies of concentrates per GCAU are down 3% from 1971/72's high of 2.37 tons, feeding of concentrates may make a further modest increase from this season's high level. Nearly all of this gain would come in feed grains, since wheat feeding will likely decline as a result of higher prices and increased export demand. And byproduct feeds may continue in fairly tight supply.

During October 1971-June 1972, livestock-feed price ratios were very favorable and concentrate feeding rose 6% above a year earlier. Since the number of GCAU's were about the same, all of this increase in concentrate feeding came from heavier feeding rates. Heavy feeding during July-September will likely push concentrate feeding in 1971/72 to a new high of around 188 million tons, some 8 million more than the previous peak in 1969/70.

HIGH-PROTEIN FEEDS

Protein Feed Expansion Stalls

Rising demand for grain concentrate feeds throughtout the 1950's and 1960's also brought an expansion in protein feeding. However, in 1970/71 and 1971/72 this expansion came to a virtual standstill at around 20 million tons each year. The slowdown in 1970/71 was attributable to the tight feed grain supplies and reductions in grain concentrate feeding; i.e. less protein feeds were required to blend with grain feed ingredients in rations. In 1971/72, it's primarily the result of tight supplies and high prices of soybeans, since grain concentrate feeding is making a sizable gain.

Historically, expansion in protein feeds comes in spurts. For example, protein feeding (soybean meal equivalent) in 1961-64 was stable at about 16½ million tons annually. In 1965-67 it was stable at around 18 million tons each year. Thus, the current slowdown may be only temporary. Poultry and livestock are the prime demand factors for high-protein feeds. Their expanding numbers over the years plus improved nutritional balance in rations have fueled the rise in protein feed requirements.

The supply of protein feeds available for feeding is determined largely by the oilseed meals, which account for roughly 75% of total protein feeds. Soybean meal is by far the leading oilseed meal, making up around 85% of all oilseed meals and 62% of all protein feeds consumed. Supplies of other oilseed meals (soybean meal equivalent) are becoming less important, as they have declined from 2.4 million to 1.8 million tons during the last decade. Animal and grain proteins are the only true byproducts of their respective industry. That is, the output of these feeds is determined by demand for the primary products of the wet process, dry process, distilling, brewing, meat and dairy industries. Because of the rising demand and production of these products, output of byproduct protein feeds generally is trending upward.

Fish is processed into both meal and oil but because of its total higher value the meal portion is considered the primary product. Fish meal supplies (especially from imports) can have a modest to sometimes moderate effect on availability of all protein feeds.

But, the availability of soybean meal for the domestic market still remains the most important single factor in the total protein feed supply.

1972/73 Protein Outlook

Protein supplies for 1972/73 may show a modest gain from the 20 million tons estimated for the current feeding season. Requirements will be a little larger with high-protein animal units projected at around 1%-2% above the 143 million estimated for this year.

Through August prospects point to 9% more soybeans, supplies for domestic crushing will continue to be fairly tight. Even so, continued strong demand from

Table 5 .--Feed concentrate balance, animal units, and feed per unit, average 1965-69, annual 1966-72

Item	Year beginning October 1/							
	1965-69 average	1966	1967	1968	1969	1970	1971 2/	1972 3/
	Million tons							
Supply of all concentrates	250.8	235.1	249.1	255.9	266.7	249.5	280.7	274.4
Concentrates fed 4/								
Feed grains	130.3	125.6	126.1	133.8	139.6	136.8	146.3	
Wheat	4.6	3.6	4.3	5.2	6.7	7.2	7.0	
Rye	.3	.3	.3	.3	.3	.4	.5	
Byproduct feeds	32.2	31.2	31.1	32.9	34.7	34.5	34.4	
Total	167.4	160.7	161.8	172.2	181.3	178.9	188.2	
Grain-consuming animal units (Mil.)	111.7	111.5	111.5	114.0	115.3	118.2	118.3	119.5
Supply of all concentrates per animal unit (Tons)	2.24	2.11	2.23	2.24	2.31	2.11	2.37	2.30
All concentrates fed per animal unit (Ton)	1.50	1.44	1.45	1.51	1.57	1.51	1.59	

1/ Except oat and barley supplies which start on July 1. 2/ Preliminary. 3/ Based on August 1, 1972 indications. 4/ Total quantities fed, including domestically produced and imported grains and byproduct feeds.

Table 6.--Feed concentrates consumed by livestock and poultry, 1965-71

Item	Year beginning October						
	1965-69 average	1966	1967	1968	1969	1970	1971 1/
Concentrates fed (Mil. tons)							
October-June	129.7	125.1	123.3	133.0	141.2	139.3	148.3
July-September	37.7	35.6	38.5	39.2	40.1	39.6	
Total	167.4	160.7	161.8	172.2	181.3	178.9	
Grain-consuming animal units fed annually (Mil.)	111.7	111.5	111.5	114.0	115.3	118.2	118.3
Concentrates fed per grain-consuming animal unit (Tons)							
October-June	1.16	1.12	1.11	1.17	1.22	1.18	1.25
July-September	.34	.32	.34	.34	.35	.33	
Total	1.50	1.44	1.45	1.51	1.57	1.51	

1/ Preliminary.

High-protein feeding

Period	Quantity fed[1]		Price index	
	1970/71	1971/72	1970/71	1971/72
	Mil. tons	*Mil. tons*	*1967=100*	
Oct.-Dec.	5.3	5.0	106	102
Jan.-Mar.	5.0	5.0	106	112
Apr.-June	5.1	5.2	104	121
July-Sept.	4.7	[3]4.8	105	
Oct.-Sept. sea.	20.1	[3]20.0	105	
HPAU (Mil.)[2]	140.9	142.8		
Fed per AU (Lb.)	285	280		

[1] Soybean meal equivalent. [2] High-protein animal units. [3] Forecast August 1972.

the livestock and poultry sectors may generate a modest increase in soybean meal feeding from the 13 million tons being consumed this year. With August 1 prospects for a 25% increase in cotton production, supplies of cottonseed available for crushing will be much larger. Cottonseed meal feeding in 1971/72 will total around 1.8 million tons. Availability next season may reach 2.4 million tons.

Soybean meal feeding and prices

Period	Feeding		Price-Decatur	
	1970/71	1971/72	1970/71	1971/72
	1,000 tons	*1,000 tons*	*Dollars per ton*	*Dollars per ton*
Oct.-Dec.	3,670	3,322	79	76
Jan.-Mar.	3,359	3,313	78	86
Apr.-June	3,361	3,412	79	95
Tot. or Av.	10,390	10,047	78	86
July-Sept.	3,077	[1]3,053	79	
Season	13,467	[1]13,100	78	

[1] August 1972 forecast.

Fish meal supplies (domestic production and imports) this year will total 750,000 tons, a fourth more than in 1970/71. With continuation of the generally tight protein situation, supplies of fish meal could make at least a modest gain in 1972/73.

High-protein prices in 1971/72 averaged 113% of the 1967 base. Prices in 1972/73 will continue to reflect generally tight supplies and strong demand. Soybean meal (44% Decatur) will average around $88 a ton this season a record and some $10 more than in each of the last 2 years. Prices this summer have risen sharply. Mid-August prices were quoted at around $104 a ton, $23 more than a year ago. Prices this autumn probably will be well above the $73-$75 level of last September-October.

HAY

Demand Moves Up As Supply Holds

The outlook for the 1972/73 hay situation features lower production, larger consumption, and strong prices. The supply at 154 million tons is about the same as a year ago. May 1 carryover was up 16%, offsetting a smaller hay crop. On-farm stocks were up sharply in Texas, Oklahoma, Kansas, and Nebraska, reflecting the very good grazing last fall and winter. Roughage consuming animal units (RCAU) are forecast at a record-high 100 million, as cattle inventory continues to expand in response to very favorable prices. Assuming disappearance per RCAU will be near average, 1972/73 hay consumption would total about 133 million tons, 4% higher than last season.

U.S. hay acreage for 1972, estimated at 62.5 million, is down 1% from the previous year; alfalfa, the major hay crop, was off about 0.2 million acres and all other hay was down 0.6 million. Conditions on August 1 indicated that yields will be down slightly from last year's 2.07 tons per acre. Production of all kinds of hay is estimated at 128 million tons, 2% below the 1971 crop. Most of the decline is expected in hay other than alfalfa. Hay growth in major producing regions was generally delayed this year by a cool, wet spring. First cuttings were generally below average quality. Damage from the alfalfa weevil also was particularly prevalent where wet conditions hampered spraying operations.

A smaller hay harvest is indicated for most regions. South Dakota was the only major producing State with a substantially larger crop. Harvest losses were greatest in Wisconsin and New York.

Prices Strong This Summer

Hay prices received by farmers averaged $28.50 per ton in July, 18% higher than a year earlier. Alfalfa averaged $30.50 and all other hay $24.50. Prices have been up in all regions except the West South Central States where last year's hay supplies were sharply reduced by dry weather. This price strength is due in part to the strong demand for roughage feeds caused by the increase in RCAU's and an extended hay feeding period this spring. With prospective production down in most areas, with continued high beef cattle prices, and herd expansion likely, hay prices should continue strong during 1972/73.

Table 7 .--Hay: Acreage, supply and disappearance per animal unit, United States, average 1965-69, annual 1963-72

Year beginning May	Acreage harvested	Yield per harvested acre	Production	Carryover May 1	Total supply	Disappearance	Roughage consuming animal units	Supply per animal unit	Disappearance per animal unit
	Mil. acres	Tons	- - - - - Mil. tons - - - - -				Million	- - Tons - -	
Average 1965-69	64.5	1.94	125.2	22.1	147.3	123.7	94.4	1.56	1.31
1963	66.4	1.77	117.5	23.1	140.6	120.8	96.0	1.46	1.26
1964	67.4	1.76	118.8	19.8	138.6	122.0	95.7	1.45	1.27
1965	67.7	1.85	125.5	16.6	142.1	119.4	94.7	1.50	1.26
1966	65.1	1.86	121.0	22.7	143.7	121.8	94.4	1.52	1.29
1967	64.7	1.95	126.3	21.9	148.2	123.0	94.4	1.57	1.30
1968	62.7	2.00	125.5	25.2	150.7	126.8	93.8	1.61	1.35
1969	62.1	2.06	127.7	23.9	151.6	127.3	94.5	1.60	1.35
1970	62.9	2.03	127.5	24.3	151.8	129.5	96.7	1.57	1.34
1971 1/	63.3	2.07	131.0	22.3	153.3	127.5	97.6	1.57	1.31
1972 2/	62.5	2.04	127.8	25.8	153.6		100.0	1.54	

1/ Preliminary. 2/ August 1 indications.

Table 8 .--Hay: Production by regions, average 1965-69, annual 1965-72

Year	North Atlantic	East North Central	West North Central	South Atlantic	South Central	Western	United States
				1,000 tons			
Average 1965-69	11,921	22,688	41,755	5,278	15,218	28,352	125,212
1965	11,000	22,437	43,471	5,170	15,050	28,408	125,536
1966	11,973	22,791	40,531	4,699	14,343	26,690	121,027
1967	12,569	22,237	41,347	5,361	15,606	29,180	126,300
1968	12,032	23,344	40,415	5,557	16,158	28,016	125,522
1969	12,033	22,629	43,009	5,603	14,933	29,468	127,675
1970	12,508	22,356	40,910	5,572	15,744	30,375	127,465
1971 1/	12,536	22,470	43,003	5,718	16,480	30,747	130,954
1972 2/	11,606	21,483	43,320	5,776	15,515	30,122	127,822

1/ Preliminary. 2/ August 1 indications.

Table 9.--Hay: Average prices received by farmers, by regions July 1972 with comparisons

Region	Hay per ton				
	July			1972 as a percentage of-	
	Average 1965-69	1971	1972	Average 1965-69	1971
	- - - - Dol. per ton - - - -			- - - Pct. - - -	
New England	30.20	---	---	---	---
Middle Atlantic	26.00	27.90	30.30	117	109
East North Central	21.10	22.20	25.40	120	114
West North Central	18.70	19.10	20.40	109	107
South Atlantic	31.10	34.00	33.40	107	98
East South Central	25.40	27.70	28.00	110	101
West South Central	21.60	28.70	25.90	120	90
Mountain	22.80	25.50	30.70	135	120
Pacific	24.80	29.80	32.60	131	109
United States (av.)	22.10	24.10	28.50	129	118

ECONOMIC EVALUATION OF FULL-FAT SOYBEANS IN BROILER RATIONS

by Yvonne Davies and Donald Burdick[1]

ABSTRACT: *Price relationships in the Atlanta market during the study period usually made feeding full-fat soybeans uneconomical. This conclusion is based on an economic evaluation of soybeans in broiler finisher rations utilizing the technique of parametric programming. The study covers the first 8 months of the October 1971 - September 1972 feeding year and is applicable to the Southeastern broiler industry.*

Key Words: *Full-Fat Soybeans, Parametric Programming, Soybean Meal, Least-Cost Broiler Rations.*

The sharp rise in soybean meal prices in recent months has prompted poultry producers and feed manufacturers to consider substitute sources of protein. Fish meals and other animal protein meals could replace soybean protein nutritionally; however, these protein supplements usually cost more than soybean protein. Other alternatives include cottonseed, linseed, and peanut meal, but these plant protein meals rank below soybean meal in preference and are not as plentiful in supply.

Since the beginning of the current feeding year starting October 1971, soybean meal prices have increased at a rate of almost 4 percent a month (figure 1). Soybean prices have increased at a slower rate, about 2 percent a month. Because of this current price situation, poultrymen are interested in the economics of feeding soybeans. Whether soybeans can economically be fed to broilers can be determined using parametric programming.[2]

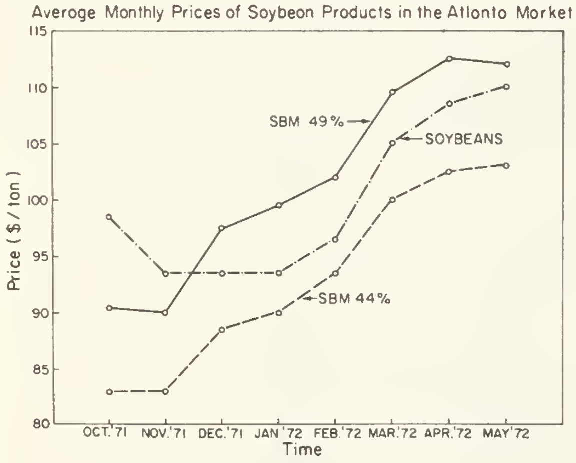


Figure 1

Parametric Programming

Parametrics differs from methods employed in the past to evaluate full-fat soybeans. The parametric technique, which is a refinement of linear programming, quantifies the economic value or nutritive worth of a feedstuff. In the case of any feed ingredient, the economic value is based on (1) its nutrient composition, (2) the composition of other available ingredients, (3) the cost of other ingredients, and (4) the nutrient requirements of the diet. In parametric programming, selection among ingredients is based on cost of supplying required nutrients; thus, major importance is placed on formulating rations that meet the bird's nutritional requirements at the lowest cost.

Any number of nutrients can be considered, but the more nutrients included, the larger the computer problem. For this analysis, metabolizable energy, protein, fat, fiber, calcium, available phosphorus, xanthophyll, choline, sodium, chloride, arginine, cystine, lysine, methionine, and tryptophan are included. Other formulas for assessing the value of soybeans make economic comparisons on the basis of protein and energy only. Another distinguishing feature of parametric programming is that it can be used to show how much cooked soybeans to use in the least-cost ration. As indicated by the composition of the 3 comparative broiler finisher rations in table 1, full-fat soybeans replace dietary components in addition to soybean meal and animal fat. Other evaluation methods assume that cooked soybeans replace only soybean meal and such energy sources as fat or corn.

Procedure

The period studied is the first 8 months of the current feeding year, October 1971 - May 1972. Prices of ingredients are average monthly prices for the

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[2] There are also physical limitations to the practicability of feeding broilers full-fat soybeans which are not covered in this analysis.

Table 1.—Comparative broiler finisher rations

Ingredient	Full-fat soybeans ration	44% soybean meal ration	49% soybean meal ration
	Percent	*Percent*	*Percent*
Full-fat soybeans	14.74	---	---
44% soybean meal	---	12.54	---
49% soybean meal	---	---	10.43
Corn gluten meal	5.11	5.18	4.99
Peruvian fishmeal	4.40	3.41	2.64
Menhaden fishmeal	3.10	4.09	4.86
Poultry byproduct meal	5.00	5.00	4.94
Meat and bone meal	---	---	1.50
Yellow corn	65.41	64.65	66.80
Animal fat	1.19	4.12	3.22
Salt	0.33	0.32	0.40
Other[1]	0.71	0.69	0.22

[1] Includes calcium carbonate, defluorinated phosphate, MHA, and vitamin-trace mineral mix.

Atlanta, Ga. market. Composition data for feed ingredients are average values. The nutrient content of full-fat soybeans and soybean meal appears in table 2. The diet studied is for finishing broilers with nutrient requirements typical of those currently being met by Southeastern poultry feeders (table 3).

Table 2.—Nutrient composition of full-fat soybeans, 44% soybean meal, and 49% soybean meal*

Nutrient	Unit	Full-fat soybeans	44% soybean meal	49% soybean meal
Metabolizable energy	Kcal/lb.	1500	1022	1102
Crude protein	Pct.	38.0	45.8	50.9
Crude fat	do.	18.0	0.9	0.8
Crude fiber	do.	5.0	6.0	2.8
Calcium	do.	0.25	0.32	0.26
Available phosphorus	do.	0.18	0.20	0.19
Choline	Mg/lb.	1100	1247	1255
Arginine	Pct.	2.80	3.20	3.80
Cystine	do.	0.55	0.67	0.80
Lysine	do.	2.40	2.90	3.20
Methionine	do.	0.54	0.60	0.73
Tryptophan	do.	0.52	0.60	0.65

*As fed basis.

Sources: R.D. Allen, Ingredient analysis table, *Feedstuffs*, 1971 Yearbook; National Research Council, *Nutrient Requirements of Poultry.*

Results of the Analysis

Using the parametric technique, the economic feasibility of feeding cooked full-fat soybeans was measured for the 8-month study period. Table 4 summarizes the results. The value column shows the price at which cooked full-fat soybeans economically replace soybean meal (49%) in the least-cost ration. Comparing these figures to the cost of purchasing and cooking soybeans, indicates the economic feasibility of feeding soybeans. The cost column is the average price received by Georgia farmers for all soybeans regardless of grade and does not take cooking costs into account.

Table 3.—Nutrient requirements for finishing broilers

Nutrient	Unit	Amount
Metabolizable energy, min.	Kcal/lb.	1525
Crude protein, min.	Pct.	21.8
Crude fat, min.	do.	5.0
Crude fiber, max.	do.	3.5
Calcium, min.	do.	0.80
Available phosphorus, min.	do.	0.45
Xanthophyll, min.	Mg/lb.	11
Choline, min.	do.	450
Sodium, min.	Pct.	0.22
Chloride, min.	do.	0.22
Vitamin-trace mineral mix, exact	do.	0.10
Arginine, min.	do.	1.17
Lysine, min.	do.	1.10
Methionine, min.	do.	0.43
Methionine + cystine, min.	do.	0.79
Tryptophan, min.	do.	0.21

The differential shows the amount which cooking costs cannot exceed in order for full-fat soybeans to be an economical substitute for soybean meal (49%). When the differential is reduced by the cooking cost, the relative advantage or disadvantage in feeding full-fat soybeans results. No attempt is made to include the cost of cooking in this table because estimates vary so widely—depending on the type of cooker used, the area, and the number of animals fed. Each feeder or manufacturer can insert his own estimate of cooking costs and determine whether it is profitable to feed soybeans.

Table 4.—Value versus cost of feeding full-fat soybeans to replace 49% soybean meal in broiler finishing rations, Atlanta market

Month	Value of cooked soybeans	Cost of raw soybeans	Differential
	Dollars per ton		
1971			
October	89.16	98.33	-9.17
November	87.99	93.33	-5.34
December	94.62	93.33	+1.29
1972			
January	96.16	93.33	+2.83
February	98.49	96.67	+1.82
March	104.65	105.00	-0.35
April	106.56	108.33	-1.77
May	107.56	110.00	-2.44

In 5 of the 8 months studied, the value of full-fat soybeans in the finisher ration was not great enough to cover raw product cost, even without taking cooking costs into account. In December, January, and February, raw product cost was covered but the size of the differential (only $1-2 a ton) shows that cooking costs would have to be quite low for economics to favor feeding soybeans.

Full-fat soybeans are more nearly like 44% meal than 49% meal because both contain the soybean hulls. When compared to soybean meal (44%), soybeans had a higher value since nutrients in full-fat soybeans were appraised in terms of more costly nutrients present in the ration containing 44% meal (table 5). During the 8-month period, 44% meal rations on the average cost at least 40 cents a ton more than the 49% meal rations. Feeding full-fat soybeans appeared more favorable when compared to the more expensive ration. In January and February, the differential was large enough to allow over $6 a ton to cover cost of cooking. In only two months, October and November, did the cost of raw soybeans exceed the value of cooked full-fat soybeans in the ration.

Table 5.—Value versus cost of feeding full-fat soybeans to replace 44% soybean meal in broiler finishing rations, Atlanta market

Month	Value of cooked soybeans	Cost of raw soybeans	Differential
	Dollars per ton		
1971			
October	94.34	98.33	-3.99
November	93.20	93.33	-0.13
December	98.18	93.33	+4.85
1972			
January	99.42	93.33	+6.09
February	103.19	96.67	+6.52
March	108.47	105.00	+3.47
April	110.14	108.33	+1.81
May	112.67	110.00	+2.67

Results of the parametric analysis were used to set up two graphical models showing when to feed full-fat soybeans to finishing broilers (figures 2 and 3). In each model, a line was fitted to the data on soybean meal prices and the value of full-fat soybeans. Equations for these lines were:

$$Y = 12.89 + 0.84X \quad R^2 = .997$$

for comparison with 49% soybean meal

$$Y = 19.08 + 0.90X \quad R^2 = .991$$

for comparison with 44% soybean meal

The diagonal (which is the line of best fit for the data) divides each graph into two sections. To read the graphs, locate the price of soybean meal on the horizontal axis and the price of soybeans on the vertical axis. If the point lies above the diagonal soybean meal should be fed; below the diagonal, full-fat soybeans should be fed to finishing broilers.

For illustration, October-May Atlanta prices have been plotted. Because of the variability in estimates, cost of cooking has not been included; only raw product cost has been plotted. However, cooking cost should be taken into account by adding it vertically to the price of raw soybeans. All points and the line then move upward by the amount of the cooking cost.

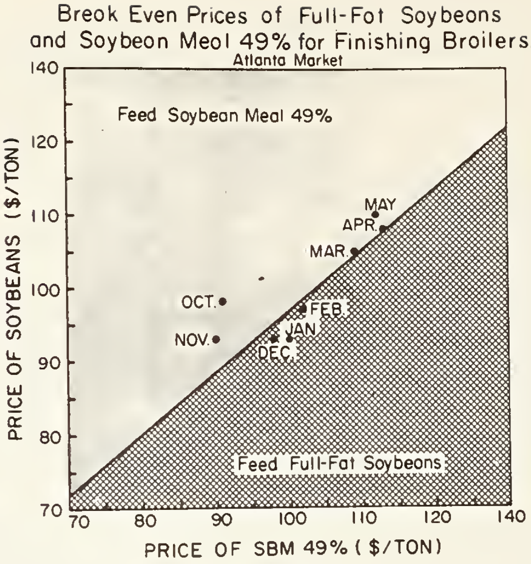

Figure 2

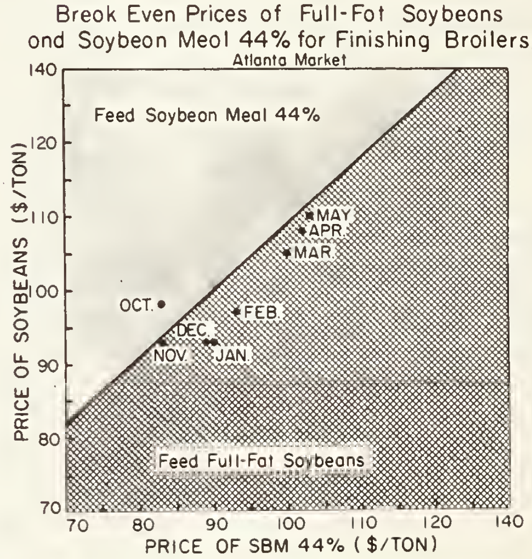

Figure 3

Disregarding cooking cost, economics favored feeding full-fat soybeans as a replacement for 49% soybean meal in broiler finisher rations in December, January, and February (figure 2); nevertheless, cooking cost in excess of $1-2 a ton will raise the points high enough to put them above the diagonal and make feeding 49% meal more economical. In a similar manner, the second model illustrates when to feed full-fat soybeans over 44% soybean meal (figure 3). Again, cost of cooking must be added to the cost of raw beans and all points moved upward before making the decision to feed full-fat soybeans. Generally, price relationships in the Atlanta market during the test period made it uneconomical to feed full-fat soybeans as a replacement for soybean meal in broiler finishing rations.

The parametric technique gives a more complete value of cooked soybeans in broiler rations than other methods that have been used previously.[3]

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[3] Comparisons of (1) the parametric technique, (2) the USDA formula, and (3) the Petersen method for evaluating full-fat soybeans versus soybean meal in broiler rations can be obtained from the authors of this article (404) 546-3412.

Table 10.--Feed grains: Domestic disappearance and exports, by quarters, United States, 1965-72

Year beginning October	October-December		January-March		April-June		July-September		Total October-September	
	Domestic disappearance	Exports 1/	Domestic disappearance	Exports 1/	Domestic disappearance	Exports 1/	Domestic disappearance	Exports 1/	Domestic disappearance	Exports 1/
	Million bushels									
	CORN									
Average 1965-69	1,128	173	1,009	133	888	136	802	149	3,827	591
1965	994	197	1,007	171	903	177	801	142	3,705	687
1966	1,141	140	837	126	865	107	805	114	3,648	487
1967	1,143	183	895	158	899	129	852	163	3,789	633
1968	1,165	158	1,121	71	839	134	782	173	3,907	536
1969	1,193	186	1,187	139	935	133	771	154	4,086	612
1970 2/	1,208	156	1,091	121	872	93	751	147	3,922	517
1971 2/	1,403	160	1,125	173	976	192				
	GRAIN SORGHUM									
Average 1965-69	240	47	184	47	134	35	50	53	608	182
1965	211	50	181	73	129	62	61	81	582	266
1966	210	75	230	65	132	59	42	49	614	248
1967	212	55	168	48	128	21	37	42	545	166
1968	256	28	186	16	137	20	56	42	635	106
1969	312	29	153	33	144	15	54	49	663	126
1970 2/	277	51	203	52	168	12	59	29	707	144
1971 2/	252	19	206	30	179	27				
	OATS									
Average 1965-69	146	5	219	2	181	4	284	4	830	15
1965	144	13	226	2	207	13	275	9	852	37
1966	166	7	220	1	170	3	272	5	828	16
1967	129	1	207	2	171	2	272	3	779	8
1968	151	2	232	1	176	2	300	2	859	7
1969	138	1	211	1	183	1	301	2	833	5
1970 2/	169	14	211	1	190	1	301	1	871	17
1971 2/	146	3	196	11	176	9				
	BARLEY									
Average 1965-69	79	9	87	6	78	12	112	11	356	38
1965	68	22	93	15	67	23	95	15	323	75
1966	88	10	81	7	75	13	102	13	346	43
1967	75	7	76	9	81	2	105	3	337	21
1968	83	4	88	1	81	5	121	1	373	11
1969	82	1	95	3/	84	15	140	23	401	39
1970 2/	93	17	101	23	88	15	129	5	411	60
1971 2/	91	10	106	3	83	32				
	TOTAL (Million tons) 4 GRAINS									
Average 1965-69	42.5	6.5	39.0	5.2	33.4	5.1	31.1	6.0	146.0	22.8
1965	37.7	7.7	39.1	7.2	33.8	7.5	30.8	6.7	141.4	29.1
1966	42.6	6.4	35.3	5.5	32.4	5.0	30.5	5.0	140.8	21.9
1967	41.8	6.8	34.9	6.0	33.4	4.3	31.8	5.9	141.9	23.0
1968	44.2	5.3	42.4	2.5	32.1	4.4	31.2	6.2	149.9	18.4
1969	46.3	6.1	43.2	4.8	35.2	4.5	31.3	6.3	156.0	21.7
1970 2/	46.5	6.4	42.0	5.4	34.3	3.3	30.6	5.1	153.4	20.2
1971 2/	50.9	5.3	42.9	5.9	37.1	7.0				

1/ Includes grain equivalent of products. 2/ Preliminary. 3/ Less than 500,000 bushels.

Table 11.--Feed grains: Acreage, yield and production, United States average 1965-69, annual 1968-72

Feed grain	Unit	Average 1965-69	1968	1969	1970	1971 1/	1972 2/
Corn							
Planted	1,000 acres	66,424	65,126	64,476	67,004	74,097	66,846
Harvested 3/	1,000 acres	56,660	55,880	54,598	57,224	63,819	57,141
Yield	Bu.	77.4	78.6	83.9	71.6	86.8	86.6
Production	1,000 bu.	4,387,516	4,393,273	4,582,534	4,099,493	5,540,253	4,947,986
Grain Sorghum							
Planted	1,000 acres	17,586	18,014	17,457	17,268	21,272	17,436
Harvested 3/	1,000 acres	13,674	13,995	13,525	13,732	16,601	13,975
Yield	Bu.	53.1	52.9	55.3	50.7	53.9	57.5
Production	1,000 bu.	726,120	739,695	747,280	696,454	895,349	803,168
Oats							
Planted	1,000 acres	22,931	23,166	23,532	24,434	21,987	20,495
Harvested 3/	1,000 acres	17,564	17,533	17,930	18,524	15,734	14,181
Yield	Bu.	50.2	53.6	53.0	49.1	55.7	52.0
Production	1,000 bu.	881,325	939,228	950,023	908,702	875,775	736,775
Barley							
Planted	1,000 acres	10,405	10,477	10,311	10,420	11,064	10,548
Harvested 3/	1,000 acres	9,553	9,709	9,531	9,628	10,135	9,640
Yield	Bu.	42.0	43.6	44.4	42.6	45.6	42.4
Production	1,000 bu.	400,974	422,959	423,547	409,780	462,484	409,085
Four feed grains							
Planted	Mil. acres	117.3	116.8	115.8	119.1	128.4	115.3
Harvested 3/	Mil. acres	97.5	97.1	95.6	99.1	106.3	94.9
Yield	Tons	1.71	1.74	1.83	1.60	1.93	1.92
Production	Mil. tons	166.9	168.9	174.6	158.6	205.3	182.6

1/ Preliminary. 2/ Planted acreage based on July 1 indications; harvested acreage, yield and production, August 1 indications. 3/ Harvested for grain.

Table 12.--Corn, oats and barley: Production by regions average 1965-69, annual 1968-72

Year	North Atlantic	East North Central	West North Central	South Atlantic	South Central	Western	United States
				1,000 bushels			
				CORN FOR GRAIN			
Average 1965-69	81,588	1,839,287	1,971,474	263,070	187,301	44,796	4,387,516
1968	77,171	1,806,576	2,041,604	246,110	174,021	47,791	4,393,273
1969	99,654	1,871,992	2,133,888	255,432	166,150	55,418	4,582,534
1970	107,266	1,597,232	1,971,568	221,236	136,202	65,989	4,099,493
1971 1/	107,548	2,204,730	2,636,493	295,992	221,940	73,550	5,540,253
1972 2/	92,613	1,924,063	2,380,485	297,719	185,787	67,319	4,947,986
				OATS			
Average 1965-69	48,060	234,535	509,567	19,420	35,621	34,122	881,325
1968	53,967	256,651	543,766	18,937	36,178	29,729	939,228
1969	45,288	223,256	573,070	19,959	43,944	44,506	950,023
1970	49,480	211,245	523,392	18,741	51,006	54,838	908,702
1971 1/	45,617	201,620	552,453	22,086	20,460	33,539	875,775
1972 2/	40,601	163,844	459,096	15,356	25,743	32,135	736,775
				BARLEY			
Average 1965-69	10,884	5,106	145,821	15,122	14,419	209,622	400,974
1968	11,699	6,907	177,664	15,284	15,130	196,275	422,959
1969	11,465	4,906	146,989	15,793	20,784	223,610	423,547
1970	10,810	4,623	112,144	16,084	25,428	240,691	409,780
1971 1/	11,513	5,158	169,863	17,180	17,585	241,185	462,484
1972 2/	9,260	4,694	165,715	14,003	13,661	201,752	409,085

1/ Preliminary. 2/ August 1 indications.

Table 13.--Corn: Acreage planted by regions, average 1965-69, annual 1963-72

Year	North Atlantic	East North Central	West North Central	South Atlantic	South Central	Western	United States
				1,000 acres			
Average 1965-69	2,250	23,334	29,617	5,605	4,409	1,209	66,424
1963	2,125	21,399	32,607	5,913	5,743	984	68,771
1964	2,126	22,145	29,649	5,655	5,246	1,002	65,823
1965	2,195	22,837	28,829	5,504	4,701	1,053	65,119
1966	2,199	23,731	29,036	5,593	4,592	1,155	66,306
1967	2,277	24,800	32,352	5,861	4,549	1,254	71,093
1968	2,247	22,900	29,058	5,585	4,114	1,222	65,126
1969	2,334	22,404	28,808	5,480	4,087	1,363	64,476
1970	2,447	23,326	30,184	5,715	3,883	1,449	67,004
1971 1/	2,712	25,243	34,261	5,999	4,197	1,685	74,097
1972 2/	2,658	23,015	30,530	5,430	3,613	1,600	66,846

1/ Preliminary. 2/ Based on July 1 indications.

Table 14.--Sorghum: Acreage planted in leading States, average 1965-69, annual 1963-72

Year	Texas	Oklahoma	Kansas	Nebraska	New Mexico	Arizona	California	Other States	United States
					1,000 acres				
Average 1965-69	7,069	997	4,145	2,309	366	219	407	2,074	17,586
1963	6,579	1,234	5,066	2,148	328	140	276	1,745	17,516
1964	6,250	1,061	4,306	2,341	285	147	306	2,074	16,770
1965	6,125	987	4,048	2,692	294	187	343	2,403	17,079
1966	6,370	938	3,805	2,423	326	208	410	1,892	16,372
1967	7,771	1,097	4,338	2,544	424	254	451	2,128	19,007
1968	7,538	976	4,468	2,035	390	239	383	1,985	18,014
1969	7,538	986	4,066	1,852	398	208	448	1,961	17,457
1970	7,010	937	4,391	1,778	410	193	421	2,128	17,268
1971 1/	7,641	1,200	5,180	2,406	492	189	434	3,730	21,272
1972 2/	6,640	920	4,400	1,997	428	151	350	2,550	17,436

1/ Preliminary. 2/ Based on July 1 indications.

Table 15.--Sorghum grain: Production in leading States, average 1965-69, annual 1963-72

Year	Texas	Oklahoma	Kansas	Nebraska	New Mexico	Arizona	California	Other States	United States
					1,000 bushels				
Average 1965-69	319,963	23,909	154,931	121,564	16,124	16,232	26,603	46,794	726,120
1963	242,660	21,535	147,771	102,465	12,152	7,488	16,974	34,349	585,394
1964	215,648	14,050	98,508	90,850	9,200	9,286	19,600	32,654	489,796
1965	294,056	21,830	139,426	121,498	12,488	12,450	23,700	47,250	672,698
1966	311,696	20,280	139,601	142,052	15,939	15,015	27,504	42,905	714,992
1967	343,485	25,802	149,408	123,904	19,154	19,926	27,560	46,697	755,936
1968	340,780	26,158	163,325	101,732	16,182	18,249	25,200	48,069	739,695
1969	309,800	25,474	182,896	118,636	16,856	15,522	29,049	49,047	747,280
1970	329,616	23,306	145,960	77,520	17,499	12,670	29,304	60,579	696,454
1971 1/	303,004	27,000	233,550	125,160	24,131	12,702	28,755	141,047	895,349
1972 2/	336,000	25,714	200,750	103,700	20,026	10,575	22,862	83,541	803,168

1/ Preliminary. 2/ Based on August 1 indications.

Table 16.--Feed grain stocks: Quarterly distribution, 1969-72

Year	Farm	Commodity Credit Corporation 1/	Terminal market, mill, elevator and warehouse	Total	Farm	Commodity Credit Corporation 1/	Terminal market, mill, elevator and warehouse	Total
	1,000 bushels							
	CORN							
	January 1				April 1			
1969	3,276,322	149,156	807,894	4,233,372	2,223,680	148,992	668,236	3,040,908
1970	3,323,278	144,243	848,894	4,316,415	2,223,238	135,285	632,542	2,991,065
1971	2,722,795	97,366	916,113	3,736,274	1,854,444	59,196	611,024	2,524,664
1972 2/	3,493,235	29,959	1,118,475	4,641,669	2,446,979	28,869	868,540	3,344,388
	July 1				October 1 3/			
1969	1,486,739	145,982	435,674	2,068,395	728,220	143,319	241,855	1,113,394
1970	1,403,519	117,822	401,740	1,923,081	569,390	111,287	318,306	998,983
1971 2/	1,166,743	35,938	357,618	1,560,299	423,263	24,534	215,493	663,290
1972 2/	1,567,872	27,811	580,808	2,176,491				
	SORGHUM GRAIN							
	January 1				April 1			
1969	221,739	4,600	518,764	745,103	129,823	4,598	408,768	543,189
1970	191,147	4,581	498,925	694,653	122,103	4,577	381,318	507,998
1971	154,765	4,602	454,464	613,831	89,628	3,169	264,912	357,709
1972 2/	252,014	41	463,487	715,542	146,619	51	336,311	482,981
	July 1				October 1 3/			
1969	83,816	4,583	297,908	386,307	53,206	4,583	230,457	288,246
1970	70,251	5,230	273,688	349,169	40,606	5,258	199,977	245,841
1971 2/	36,259	932	140,368	177,559	13,548	500	76,640	90,688
1972 2/	68,216	49	208,400	276,665				
	OATS							
	January 1				April 1			
1969	660,692	6,656	116,571	783,919	442,820	6,650	102,727	552,197
1970	724,299	7,965	153,021	885,285	529,357	7,914	136,730	674,001
1971	702,007	11,370	199,401	912,778	502,003	11,305	188,235	701,543
1972 2/	686,755	11,347	239,234	937,336	502,405	10,874	217,836	731,115
	July 1 3/				October 1			
1969	275,218	6,664	93,285	375,167	830,755	7,884	185,844	1,024,483
1970	344,679	8,032	137,780	490,491	849,794	11,318	234,974	1,096,086
1971 2/	310,748	11,279	189,543	511,570	805,614	11,376	269,126	1,086,116
1972 2/	332,575	10,003	206,452	549,030				
	BARLEY							
	January 1				April			
1969	247,666	3,916	119,982	371,564	183,783	3,917	95,117	282,817
1970	264,586	4,915	157,236	426,737	198,512	4,906	128,693	332,111
1971	238,534	5,132	137,060	380,726	142,055	5,081	109,938	257,074
1972 2/	254,407	4,153	132,761	391,321	165,074	3,688	114,279	283,041
	July 1 3/				October 1			
1969	114,875	3,927	80,682	199,484	314,135	4,991	185,803	504,929
1970	136,699	4,892	95,414	237,005	305,039	5,304	178,529	488,872
1971 2/	81,398	4,846	69,999	156,243	316,581	4,294	166,836	487,711
1972 2/	106,521	1,165	66,522	174,208				

1/ CCC owned at binsites; excludes grain owned by CCC in other positions. 2/ Preliminary. 3/ Old crop grain only.

Table 17.--Feed grain stocks owned by Commodity Credit Corporation, 1969-72

(1st of month)

Year	January	February	March	April	May	June	July	August	September	October	November	December
	1,000 bushels											
	CORN											
1969	260,519	258,684	257,774	257,431	259,206	263,768	270,158	266,793	288,895	295,100	300,309	297,465
1970 1/	294,803	293,137	290,828	283,573	271,190	265,110	259,745	258,038	226,661	196,627	136,334	121,366
1971	115,330	108,319	103,385	101,682	100,277	96,839	89,550	88,643	87,703	96,639	127,840	136,081
1972	144,941	149,478	151,988	152,721	153,638	154,626	154,167	154,118				
	GRAIN SORGHUM											
1969	192,447	192,413	192,420	192,223	192,962	193,334	192,939	197,522	198,810	198,678	196,001	192,024
1970 1/	171,505	159,862	158,532	156,355	159,320	162,550	159,045	167,777	159,729	156,403	147,411	143,149
1971	141,974	130,674	126,218	120,359	110,914	91,856	78,393	68,648	65,932	62,594	60,947	58,645
1972	53,074	50,945	49,592	49,098	48,046	46,641	46,378	46,627				
	OATS											
1969	45,916	45,907	45,910	45,922	46,043	47,136	61,088	67,884	74,554	75,867	76,650	76,512
1970 1/	76,376	76,356	75,978	76,270	75,926	81,582	104,254	127,248	142,062	137,157	137,797	137,698
1971	137,356	137,348	137,257	137,294	137,608	141,374	168,910	190,742	196,276	197,306	197,408	173,746
1972	173,595	173,305	172,843	172,703	172,238	173,568	178,128	182,589				
	BARLEY											
1969	6,506	6,503	6,486	6,600	7,064	8,322	26,736	34,785	45,752	47,780	48,531	48,621
1970 1/	48,478	48,488	48,488	48,527	11,788	12,642	18,059	22,417	26,233	23,380	23,457	23,527
1971	23,362	22,589	22,846	23,032	22,963	23,199	28,900	33,745	36,258	36,299	35,029	0
1972	0	0	0	0	0	0	1,353	4,892				

1/ Beginning January 1970 data are CCC uncommitted inventory; for earlier months data may include some grain sold or committed for sale.

Compiled from operating reports of Agricultural Stabilization and Conservation Service, USDA.

Table 18.--Livestock, poultry and milk-feed price ratios, 1966-70 average, by months, 1966-72

Year beginning October	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average
							HOG/CORN, U.S. Basis 1/						
Average 2/ 1966-70	17.6	17.0	16.5	19.1	19.5	18.6	17.6	18.1	18.7	19.3	19.0	17.8	18.2
1966	16.4	15.3	14.7	14.8	15.0	14.0	13.5	17.2	16.7	17.8	18.4	17.1	15.9
1967	17.3	17.6	16.2	16.9	17.8	17.5	17.5	16.8	18.1	20.0	19.5	19.3	17.9
1968	18.6	16.8	17.0	17.3	18.0	18.3	17.6	18.7	20.3	21.1	21.9	21.7	18.9
1969	22.1	23.4	23.7	23.6	24.1	22.7	20.7	19.5	19.2	19.2	17.0	14.3	20.8
1970	13.4	11.9	11.1	10.8	13.4	11.8	11.3	12.3	12.2	14.0	15.5	16.1	12.8
1971 3/	19.5	19.3	18.2	20.8	23.6	21.2	19.9	21.7	22.5	24.1			
							BEEF-STEER/CORN, Omaha 4/						
Average 2/ 1966-70	21.6	21.4	21.0	21.2	21.7	22.5	22.0	21.9	22.2	22.3	22.4	22.0	21.8
1966	18.4	17.7	17.2	18.3	18.1	17.9	18.4	18.7	19.2	20.3	22.5	22.9	19.1
1967	22.5	22.7	22.0	21.8	22.4	22.4	21.8	21.3	21.9	23.4	24.8	23.2	22.7
1968	22.6	22.9	23.5	22.8	22.8	23.5	24.0	25.4	26.6	25.2	24.6	24.3	24.0
1969	23.5	23.4	23.9	23.3	24.2	25.8	24.9	23.6	23.8	23.9	21.9	20.7	23.6
1970	21.2	20.1	18.5	19.7	21.8	21.8	22.3	22.3	21.6	22.6	26.4	28.0	22.2
1971 3/	28.2	29.0	27.4	28.3	29.1	28.2	27.4	27.8	30.5	30.4			
							MILK/FEED, U.S. Basis 5/						
Average 2/ 1966-70	1.77	1.78	1.75	1.67	1.64	1.62	1.58	1.56	1.54	1.59	1.64	1.72	1.66
1966	1.66	1.66	1.61	1.57	1.53	1.52	1.46	1.46	1.43	1.48	1.55	1.64	1.55
1967	1.68	1.72	1.69	1.68	1.65	1.62	1.60	1.60	1.58	1.64	1.72	1.79	1.66
1968	1.85	1.86	1.83	1.80	1.76	1.73	1.69	1.65	1.61	1.65	1.70	1.80	1.74
1969	1.85	1.87	1.85	1.82	1.78	1.74	1.73	1.68	1.66	1.68	1.69	1.75	1.76
1970	1.79	1.81	1.78	1.72	1.69	1.67	1.63	1.60	1.57	1.61	1.66	1.77	1.69
1971 3/	1.84	1.88	1.85	1.85	1.84	1.80	1.74	1.70	1.68	1.71			
							EGG/FEED, U.S. Basis 6/						
Average 2/ 1966-70	8.6	9.4	10.0	9.9	9.2	9.1	8.2	7.3	7.4	8.3	8.3	9.4	8.8
1966	9.3	9.5	9.3	8.6	7.5	7.9	6.9	6.7	6.3	7.0	7.0	7.5	7.8
1967	6.8	7.2	7.8	7.9	7.5	7.6	7.2	6.8	7.6	8.2	8.7	10.9	7.8
1968	9.6	9.9	10.7	10.9	9.9	10.1	9.3	7.6	7.8	9.4	8.9	10.0	9.5
1969	10.1	12.3	13.5	13.0	11.4	10.2	8.4	7.3	7.4	8.6	7.9	9.0	9.9
1970	7.4	8.3	8.8	8.0	7.4	7.3	7.3	6.7	6.4	6.4	7.1	7.1	7.4
1971 3/	6.9	7.2	8.2	7.1	6.9	7.6	6.4	6.4	6.4	7.0			
							BROILER/FEED, U.S. Basis 7/						
Average 2/ 1966-70	2.9	2.9	2.8	3.2	3.3	3.3	3.2	3.2	3.3	3.3	3.2	3.0	3.1
1966	2.9	3.0	2.6	2.9	3.2	3.0	3.0	2.8	2.9	3.1	2.8	2.7	2.9
1967	2.7	2.6	2.7	3.0	3.3	3.2	3.2	3.3	3.4	3.5	3.4	3.2	3.1
1968	2.9	3.0	3.1	3.2	3.4	3.4	3.3	3.4	3.5	3.8	3.6	3.4	3.3
1969	3.3	3.2	3.0	3.2	3.0	3.1	2.9	2.9	2.9	2.8	2.8	2.7	3.0
1970	2.5	2.6	2.4	2.6	2.8	2.7	2.7	2.9	3.0	3.2	2.9	2.9	2.8
1971 3/	2.7	2.7	2.5	2.8	3.1	3.1	2.7	2.8	3.0	3.3			

1/ Number bushels of corn equal in value to 100 lbs. of hog liveweight. 2/ Calendar year averages. 3/ Preliminary. 4/ Based on price of beef-steers all grades sold out of first hands for slaughter and No. 2 Yellow corn. 5/ Pounds concentrate ration equal in value to one lb. whole milk. 6/ Number of lbs. of laying feed equal in value to one dozen eggs. 7/ Number of lbs. of broiler grower feed equal in value to one lb. broiler liveweight.

Table 19.--Corn and grain sorghum: Average price received by farmers, United States, by months, 1965-72

Year beginning October	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average weighted by sales 1/
	Dollars												
	CORN, per bushel												
1965	1.10	1.04	1.13	1.19	1.20	1.17	1.19	1.21	1.20	1.27	1.34	1.35	1.16
1966	1.29	1.26	1.29	1.28	1.26	1.28	1.26	1.25	1.26	1.21	1.11	1.12	1.24
1967	1.04	.975	1.03	1.04	1.06	1.06	1.06	1.09	1.07	1.04	.986	1.01	1.03
1968	.962	1.04	1.05	1.08	1.09	1.09	1.12	1.19	1.18	1.18	1.18	1.15	1.08
1969	1.12	1.07	1.09	1.12	1.14	1.13	1.15	1.18	1.21	1.24	1.27	1.38	1.15
1970	1.34	1.29	1.36	1.42	1.43	1.43	1.41	1.38	1.43	1.36	1.19	1.11	1.33
1971	1.00	.974	1.08	1.09	1.09	1.10	1.13	1.15	1.13	1.14			2/1.08
	GRAIN SORGHUM, per 100 pounds												
1965	1.70	1.71	1.73	1.74	1.79	1.77	1.76	1.77	1.78	1.79	1.87	1.88	1.76
1966	1.73	1.77	1.84	1.86	1.90	1.94	1.94	1.97	1.97	2.08	1.95	1.80	1.82
1967	1.68	1.68	1.73	1.75	1.86	1.86	1.83	1.84	1.80	1.74	1.63	1.62	1.77
1968	1.60	1.68	1.72	1.74	1.77	1.76	1.76	1.81	1.81	1.82	1.92	1.97	1.70
1969	1.91	1.94	1.92	1.92	1.92	1.87	1.80	1.80	1.80	1.92	1.91	2.07	1.91
1970	2.02	2.02	2.04	2.10	2.16	2.17	2.19	2.33	2.43	2.37	2.27	2.01	2.05
1971	1.76	1.78	1.86	1.89	1.86	1.87	1.87	1.88	1.90	1.98			2/1.86

1/ Includes an allowance for unredeemed loans and purchase agreement deliveries valued at the average loan rate, by States. 2/ Preliminary.

Table 20.--Oats and barley: Average price per bushel received by farmers, United States, by months, 1965-72

Year beginning July	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average weighted by sales 1/
	Dollars												
	OATS												
1965	.634	.596	.601	.615	.621	.633	.644	.649	.646	.648	.655	.669	.622
1966	.664	.635	.649	.657	.663	.677	.682	.674	.682	.680	.693	.717	.665
1967	.669	.622	.638	.647	.651	.661	.667	.686	.687	.694	.692	.694	.659
1968	.606	.533	.561	.582	.603	.607	.625	.644	.621	.614	.624	.625	.598
1969	.580	.526	.546	.571	.578	.580	.587	.591	.581	.588	.602	.613	.586
1970	.580	.567	.610	.613	.632	.650	.668	.675	.658	.634	.660	.707	.626
1971	.626	.555	.574	.581	.595	.622	.638	.636	.638	.635	.638	.666	2/.599
1972	.655												
	BARLEY												
1965	1.04	.989	.982	.989	1.02	1.03	1.03	1.07	1.06	1.03	1.06	1.08	1.02
1966	1.06	1.05	1.06	1.06	1.06	1.06	1.04	1.03	1.02	1.02	1.05	1.06	1.05
1967	1.06	1.01	.982	.984	.974	.975	.978	.984	.971	.963	.986	.983	1.00
1968	.931	.814	.875	.881	.891	.902	.898	.909	.898	.922	.975	1.04	.911
1969	.953	.816	.856	.868	.881	.892	.877	.860	.831	.829	.898	.944	.872
1970	.902	.849	.906	.925	.946	.990	1.00	1.03	1.02	1.03	1.12	1.15	.959
1971	1.07	.868	.902	.938	.985	1.00	1.02	1.01	.983	.990	1.04	1.09	2/.973
1972	1.04												

1/ Includes an allowance for unredeemed loans and purchase agreement deliveries valued at the average loan rate, by States. 2/ Preliminary.

Table 21.--Production, stocks, and foreign trade in processed feeds, foreign trade in feed grains, and corn and barley processing, specified months 1/

Commodity	Production 1971 June	Production 1972 Mar.	Production 1972 Apr.	Production 1972 May	Production 1972 June	Stocks 2/ 1971 July 1	Stocks 2/ 1972 Apr. 1	Stocks 2/ 1972 May 1	Stocks 2/ 1972 June 1	Stocks 2/ 1972 July 1
	1,000 tons					1,000 tons				
Processed feeds										
Soybean meal	1,445.5	1,518.0	1,387.2	1,488.6	1,348.0	169.1	160.5	218.0	186.7	187.1
Cottonseed meal	86.1	216.5	155.9	132.4	109.1	136.0	126.9	145.8	159.4	139.3
Linseed meal	37.1	40.6	32.9	29.2	37.4	9.4	13.0	12.0	9.5	3/
Peanut meal	18.3	16.4	14.8	15.3	12.3	11.8	1.9	2.6	3.0	2.2
Meat meal and tankage	180.4	167.6	149.5	152.4	161.3	---	---	---	---	---
Fish meal and solubles	68.7	6.8	8.7	42.7	49.2	---	---	---	---	---
Brewers' dried grains	36.0	31.9	32.7	34.8	35.8	5.2	3.4	4.1	4.0	5.8
Distillers' dried grains	27.8	38.6	36.9	37.6	35.8	.9	2.0	2.7	2.9	1.9
Wheat millfeeds	366.0	361.3	337.6	358.9	364.4	---	---	---	---	---
Rice millfeeds	35.8	37.1	35.8	42.7	35.6	---	---	---	---	---
Alfalfa meal, dehydrated	373.9	23.2	24.9	183.5	356.8	385.3	175.9	102.1	176.8	407.2
sun-cured	29.9	36.3	23.3	22.9	26.3	6.7	17.6	15.1	8.8	12.0
Total	403.8	59.5	48.2	206.4	383.1	392.0	193.5	117.2	185.6	419.2
Inedible tallow	51.4	49.2	46.9	49.3	53.5	---	---	---	---	---

Commodity	Foreign trade Exports 1971 June	Exports 1972 Mar.	Exports 1972 Apr.	Exports 1972 May	Exports 1972 June	Imports 1971 June	Imports 1972 Mar.	Imports 1972 Apr.	Imports 1972 May	Imports 1972 June
	1,000 tons					1,000 tons				
Soybean meal	358.6	368.8	199.2	365.4	221.0	---	---	---	---	---
Cottonseed meal	.3	5.0	.6	4/	.2	0	0	0	0	0
Linseed meal	11.1	6.9	6.3	13.1	7.1	.1	.3	.2	.3	.2
Other oilseed meals	4.1	4.5	10.9	6.0	3.0	.3	1.2	.8	1.0	1.2
Fish meal	---	---	---	---	---	30.2	45.6	23.9	59.2	51.5
Molasses	.3	.3	.6	6.2	.3	243.4	228.0	322.4	304.3	139.0
Corn byproducts	82.7	86.6	78.1	90.4	71.9	---	---	---	---	---
Wheat millfeeds	.1	2.7	.3	.2	5.7	15.1	16.4	12.0	10.2	16.9
Alfalfa meal, dehydrated	22.7	17.0	12.3	14.2	17.4	---	---	---	---	---
sun-cured	26.5	16.1	15.0	8.8	11.3	---	---	---	---	---
Total	49.2	33.1	27.3	23.0	28.7	---	---	---	---	---
Mixed poultry feed	9.2	7.6	6.5	9.5	11.6	---	---	---	---	---
Mixed dairy feed	6.2	34.0	20.8	19.1	24.1	---	---	---	---	---
	1,000 bushels					1,000 bushels				
Feed grains (including products)										
Corn	28,162	49,298	62,659	63,622	65,955	29	249	89	200	40
Grain sorghum	3,238	6,660	6,985	9,682	10,489	0	0	1	5	0
Oats	69	6,624	3,469	1,832	3,398	114	315	279	1,299	567
Barley	1,637	2,628	3,095	17,738	11,607	1,062	266	158	2,842	4,071
Total (1,000 s. tons)	920	1,736	2,080	2,508	2,473	28	18	11	95	108

Commodity	Grain processing or use 1971 May	1971 June	1972 February	1972 March	1972 April	1972 May	1972 June
	1,000 bushels						
Corn							
Distilled spirits & alcohol	1,729	1,811	2,376	2,548	2,363	2,478	*
Grain sorghum							
Distilled spirits & alcohol	319	252	464	487	459	483	*
Barley							
Malt liquors	9,967	10,981	8,497	10,094	10,134	10,465	*
Distilled spirits & alcohol	358	262	456	425	384	406	*

1/ Data compiled from reports of the Bureau of the Census, Agricultural Marketing Service, and National Marine Fisheries Service, Department of Commerce; Internal Revenue Service. 2/ At processors' plants. 3/ Not reported. 4/ Less than 50 tons. *Not yet available.

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* * * SPECIAL ANNOUNCEMENT * * *

MALCOLM CLOUGH, Head of the Economic Research Service's Feed Section and principal author of the *Feed Situation* for the past several years, retired from the USDA on July 1. A graduate of the University of Missouri, he began his USDA career in 1936 as a feed situation and outlook analyst. His USDA service was interrupted by World War II when he served 3 years in the U.S. Navy. He earned the Department's coveted Superior Service Award in May 1971 for "major contributions to American Agriculture through economic analysis basic to the establishment of feed grain programs, and leadership in the development of authoritative statistical series on the feed grain economy." Malcolm and his wife Dorothy plan to continue to reside in Annandale, Virginia, a suburb of Washington, D.C.